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SUBJECT: THE SOUTH AFRICAN COAL INDUSTRY: PART IV -- AFRICAN COAL

REF: A) JOHANNESBURG 335 B) JOHANNESBURG 337

JOHANNESBU 00000339 001.2 OF 003

11. (U) Introduction: This is the fourth and last of a four-part cable dealing with coal and the important role it plays in the South African economy. Part 4 provides information on some of the coal-related developments in other African countries. Reftel A provides a summary for all four sections. End Introduction.

### Coal in Africa

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¶2. (U) Virtually all of Africa's coal reserves are located in the southern part of the continent and are overwhelmingly bituminous in rank. (Note: Reserves are that portion of a deposit or resource base that are economically recoverable under present economic and technical conditions. End Note.) South Africa holds about 90% of these with proven recoverable reserves of 31 billion tons (2005) with identified resources of 120 billion tons. Most of the remaining reserves are shared between South Africa's neighbors, Botswana, Zimbabwe, Mozambique and Swaziland. In 2005, South Africa produced 245 million tons of salable coal. The second biggest producer was Zimbabwe with 2.8 million tons (down from 3.7 million tons in 2002). Third was Botswana, with 927,000 tons, followed by Swaziland with 550,000 Zambia, Tanzania, Malawi and Mozambique each produced less than 100,000 tons. None of the African bituminous coal producers north of the equator (Algeria, Nigeria, Niger, Egypt and Morocco) produce more than 200,000 tons per year. Tanzania was the only recorded producer from the East Africa region. Isolated coal-bearing sequences in Niger, Nigeria, Morocco and Egypt represent locally significant production potential.

### Zimbabwe

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13. (U) The Hwange Colliery (formerly the Wankie Colliery) is Zimbabwe's only coal producer and is the largest coal mining complex in Africa outside South Africa. The coal is used primarily for electricity generation and steel making. The colliery has a rated capacity of 3.4 million tons per year, with 90% from the open pit operation. In 1980, in-situ resources were estimated at 26.6 billion tons, including 11.2 billion tons of mineable resources. In 2005, coal production totaled 2.8 million tons. Hwange has the capacity to meet all the country's energy needs but inadequate investment in maintenance and new production facilities has impeded its ability to do so in practice.

# Botswana

14. (U) Botswana hosts large low-grade and relatively untapped

thermal-quality coal resources in two coalfields, Morupule and Mmamabula, located in the east of the country. Together, these are estimated to contain more than 17 billion tons of coal, while unproven estimates for the country range as high as 200 billion tons. In 2005, the Morupule Colliery, Botswana's only operating coal mine, produced 927,000 tons of coal. The major portion went to feed the 132 MW Morupule power station, which supplies about 30% of the country's electricity needs. The rest went to nickel-copper and soda ash plants. Botswana's imported the other 70%, mainly from Eskom. Kalahari Energy, a Botswana company, has obtained encouraging results from its current drilling program for coal-bed methane (CBM) on deposits near the border with Zimbabwe. Independent consultants' estimate the resource at a huge 196 trillion cubic feet (tcf) of which 40 to 60 tcf are considered recoverable.

#### Mozambique

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15. (U) Mozambique has extensive coal resources in six identified coalfields. These are reported to host 4.5 billion tons of proven reserves (in two fields) and a total of 15.8 billion tons of identified resources. Some 40% of these resources are believed to be in the Moatize coalfield, with the remainder dispersed in three other significant fields. Before the civil war (1975-1994) the Moatize coalfield produced about 500,000 tons per year, but output fell to 20,000 tons by the late 1990's. In 2005, Mozambique produced an estimated 35,000 tons of coal. In November 2004, the Brazilian company, Companhia Vale do Rio Doce (CVRD) in association with American Metals and Coal International (AMCI) was awarded a concession (at a cost of \$122.8 million) to explore and develop the coal deposits in the Moatize region. If successful, they will construct a coal mine and power station and the necessary infrastructure for the export of coking and thermal coal.

#### Malawi

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 $\underline{\ }$ 6. (U) Malawi hosts five identified coalfields, containing reserves of 20 million tons and a resource of 750 million tons.

JOHANNESBU 00000339 002.2 OF 003

Other fields in the southern part of the country remain unexplored. Malawi has one coal mine, Mchenga Coal Mines, which produces about 5,000 tons a month from the Livingstonia coalfield. The company supplies coal to the domestic market and exports some 1,000 tons per month to Tanzania for cement production.

### Swaziland

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17. (U) Swaziland has a single operating coal mine, the Maloma colliery, which produced 550,000 tons of anthracite coal in 12005. The mine is 75%-owned and operated by Xstrata, South Africa, and all production is exported to South Africa. A second mine, the Emaswatini bituminous coal mine at Mpaka, was closed in 1992 as it was no longer commercially viable. Swaziland has proven bituminous coal reserves of about 208 million tons.

#### Tanzania

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18. (U) Coal occurs in two basins in Southwest Tanzania. A total of about 1.5 billion tons have so far been identified. The country's only coal mine at Kiwira has an average annual output of 35,000 tons. The mine was designed to supply its own small 6 MW on-site power plant and local consumers. Due to poor maintenance, power production has dropped to between 2 and 2.5 MW. The mine has the potential to supply coal for a 200 MW station but appears unable to provide security of supply to local cement and fertilizer customers.

### Zambia

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19. (U) The only coal-mining operation in Zambia is the government-owned Maamba Colliery that produces about 70,000 tons of coal annually. Attempts to privatize the operation proved

unsuccessful. The operation consists of two open pits and a coal-preparation plant with a production capacity of 800,000 tons per year of run-of-mine coal but is reported to be in a very run-down condition. The estimated annual demand for local coal is 240,000 tons, plus identified export markets in Malawi, Tanzania and the Democratic Republic of Congo.

# Egypt

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110. (U) Egypt has one small coal mine, the Maghara underground mine in the Sinai Peninsula. Its designed capacity is 600,000 tons per year, while annual production is reported to be around 360,000 tons. National demand for hard coal is about 1.2 million tons and is primarily used in the Helwan steel works. Maghara production is non-coking and it is blended with imported metallurgical coal for steel production.

# Nigeria

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111. (U) Nigeria has a small coal industry that produces about 60,000 tons per year of sub-bituminous coal from four state-owned mines. Hard coal resources are estimated at 2.5 billion tons, plus 250 million tons of lignite. Since the discovery of oil, coal production declined from 900,000tpy in 1959 to virtually nil. The government is pushing to privatize and rejuvenate the industry and has signed its first production sharing agreement with Nordic Industries, a consortium of Danish, British and local firms, to develop its coal industry.

# Niger

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112. (U) Sociiti Nigerienne de Charbon d'Anour-Araren (SONICHAR) operates an opencast coal operation in the western part of the Air Massif in north central Niger. Coal quality is low but suitable for on-site power generation used by the nearby uranium mines. The mine has reserves estimated at 9.1 million tons and produces an estimated 180,000 tons per year to feed a linked mine-mouth thermal power station comprising two 18.8 MW units. Niger's total coal resource is estimated at 13.7 million tons.

# Kenya

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113. (U) Kenya Electricity Generating Company is exploring coal prospects in the Kitui and MWingi Districts. Although still in the preliminary stages it is believed that the country has the potential to generate 150 MW of coal-fired electricity.

# Namibia

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¶14. (U) Namibia currently imports 48% of its electricity from South Africa (Eskom) and 5% from Zambia, Zimbabwe and other short-term energy markets. Anglo-American is investigating the feasibility of mining coal deposits near the town of Aranos.

JOHANNESBU 00000339 003.2 OF 003

This represents one of two separate mega-projects being studied by Anglo Coal, Anglo American's coal mining subsidiary.

#### Morocco

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115. (U) Morocco has no significant coal production and imports coal for its coal-fired power plant which supplied about 64% of its electricity in 2005. The 1.4 MW Jorf Lasfar power plant on the Atlantic coast satisfies approximately 65% of the country's base-load electricity demand and provided one-third of the total electricity supply. Morocco has coal supply agreements amounting to 4 million tons per year to feed the Jorf Lasar and the government-owned Mohamedia (430 MW) power plants. LUOMA-OVERSTREET